

DEPARTMENT OF THE ARMY
HEADQUARTERS, UNITED STATES ARMY MATERIEL COMMAND
5001 EISENHOWER AVENUE, ALEXANDRIA, VA 22333-0001

AMC REGULATION
NO. 700-107
CHANGE 1

16 November 1992

Logistics

PREPARATION OF STANDING OPERATING PROCEDURES
(SOP) FOR AMMUNITION OPERATIONS

AMC-R 700-107, 8 May 1992, is changed as follows:

1. Page 1, table of contents. In the title of appendix E, change the word "Nuclear" to "Nonnuclear."
2. Page 3, paragraph 3i, line 1. After the word "analyses," add: "as outlined in appendix N."
3. Page 3, paragraph 3i. Change the third sentence to read: "A major function of the hazard analysis is intended to provide the decision makers an assessment of the identified hazards, proposed controls, and the rationale for acceptance or rejection of any residual risk. The analysis should be used as a management tool for making risk management decisions and allocating available resources for maximum benefit."
4. Page 3, paragraph 3i. Delete the fourth and fifth sentences.
5. Page 3, paragraph 3i(1). Change subparagraph (1) to read:

"(1) A hazard analysis for an ammunition or explosive operation will consist of a systematic, step-by-step, documented review of the operation. Hazard analyses are performed to identify hazardous conditions for the purpose of their elimination or control. An analysis will be conducted on the total system, i.e., a production, maintenance, or renovation line; the subsystems involved, i.e., facilities, utilities, and work stations, to include equipment, tools, procedures, and their interfaces. This evaluation should also consider risk from potential energy sources, (explosive, mechanical, electrical, environmental, etc.); the likelihood of an accidental release, and the effects of such a release. Each hazardous condition will be assigned a Risk Assessment Code (RAC), as defined in AR 385-10 (The Army Safety Program)."
6. Page 3, Paragraph 3i(2). Delete subparagraph (2) and replace with the following:

"(2) Hazards will be assessed in terms of exposure to risk. The hazard/exposure (risk) must be qualitatively evaluated in terms of probability and likely severity (see AR 385-10). All possible conditions and events must

be considered to determine whether they could cause or contribute to an accident or injury. Decisions regarding resolution of identified hazards shall be addressed by the Hazard Analysis Working Group (see appendix N for details). The RAC codes, as detailed in AR 385-10, will be developed and assigned to each hazard. Proposed hazard controls will be evaluated for effectiveness, to either eliminate the hazard or reduce the severity to an acceptable level of risk (normally RAC 4 or 5). The RAC codes developed for the hazard analysis will identify and categorize the risk, both before and after controls have been applied."

7. Page 4, paragraph 3i(3). Change the second sentence to read: "The U.S. Army Defense Ammunition Center and School (USADACS), and the U.S. Army Safety Center (USASC), offer courses in risk management, hazard analysis, and system safety. Those personnel instructing, performing or reviewing hazard analyses should plan to attend this type of training. Employees who have successfully completed the AMC Safety Engineer or DA Safety Internship Programs are exempt from the training provisions of this regulation. Under the purview of AMC-R 350-4, paragraph 4b, the installation or activity Certification Authority must evaluate training, if other than outlined above, to ensure that personnel are qualified to conduct hazard analyses operations. Until such time as training is completed, supervisors must ensure that only the most qualified personnel available perform, review or approve hazard analyses for ammunition operations."

8. Page 7, paragraph 5q(1)(e). Delete everything after the first sentence.

9. Page C-2, appendix C, paragraph 18. After the word "(PENTA)," add: "or "P."

10. Page C-3, appendix C, paragraph 19. After the words "treatedwith," add the words: "Copper-9-quinolinolate "(PA)." After the words "zinc naphthenate," add: "(PB)." After the words "copper naphthenate," add: "(PG)."

11. Page D-1, appendix D, paragraph c. Add "G--" before the word "Operation."

12. Page D-1, appendix D, paragraph e. Add "I--" before the words "Personnel Limits."

13. Page D-3, appendix D, paragraph G. Change the word "OPERATORS" to "OPERATIONS."

14. Appendix E. After page E-1, add pages E-2 and E-3 (figures E-1 and E-2). These figures were inadvertently omitted from the regulation and are referenced on page E-1.

15. Page I-2, appendix I, paragraph 3b. Delete "FSA."

16. Page L-1, appendix L, subparagraph d. Delete the last sentence of the paragraph.

17. Add appendix N. Add pages N-1 and N-2.

The proponent of this regulation is the United States Army Materiel Command. Users are invited to send comments and suggested improvements on DA Form 2028 (Recommended Changes to Publications and Blank Forms) to the Commander, HQ AMC, ATTN: AMCAM-LP, 5001 Eisenhower Avenue, Alexandria, VA 22333-0001.

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Appendix E — Continued

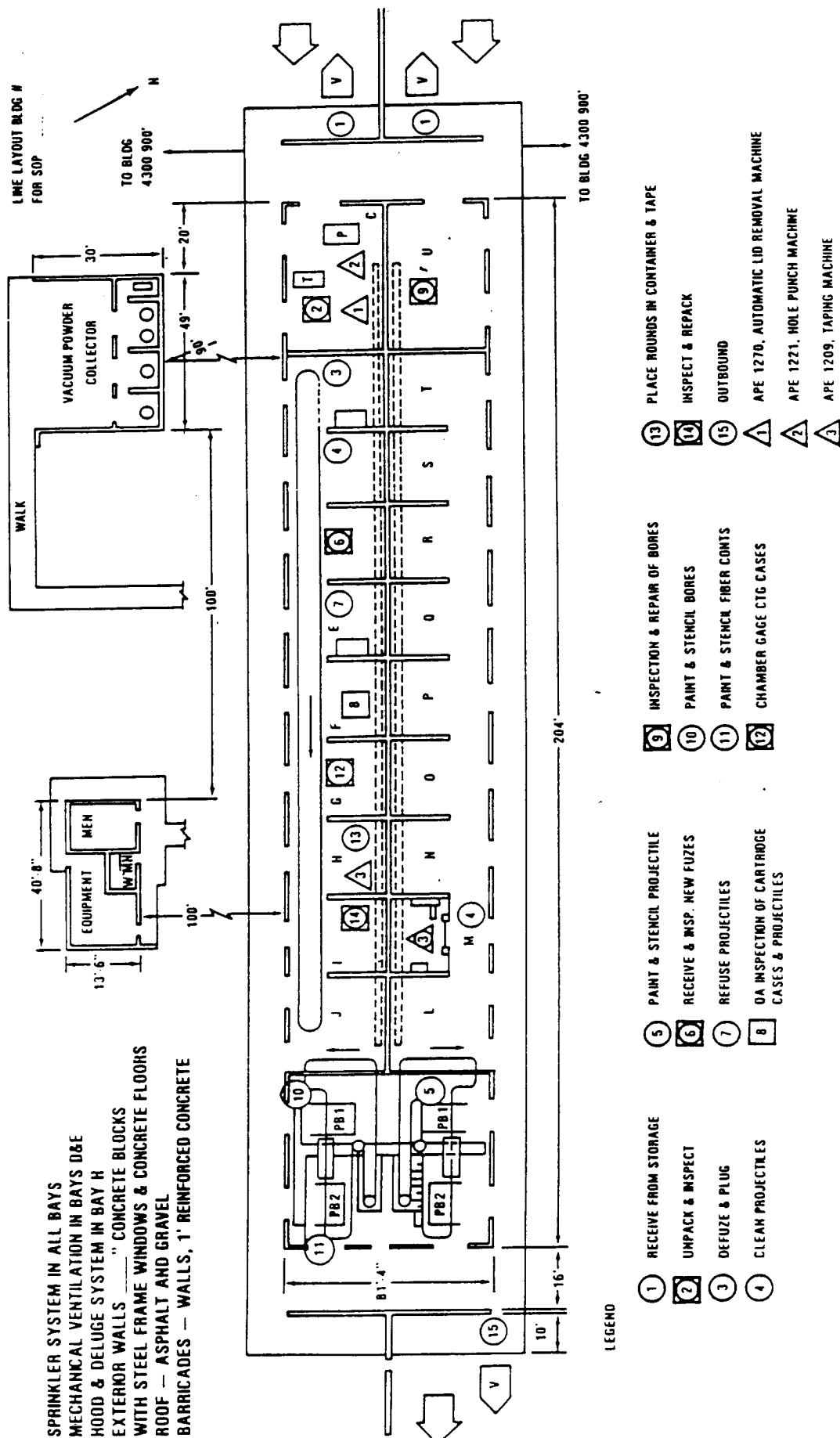


Figure E-1

STANDARDIZED SYMBOLS









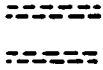



	STORAGE
	OPERATION
	INSPECTION — VERIFICATION OR ACCEPTANCE
	INSPECTION — OPERATION — IN PROCESS
	PRODUCTION EQUIPMENT
	TABLES, DOLLIES, WORK BENCHES, TRUCKS, ETC. PALLETS
	VAN
	MONORAIL
	POWER CONVEYOR
	ROLLER CONVEYOR
	PAINT BOOTH
	OPERATIONAL SHIELD

Figure E-2

APPENDIX N

REQUIREMENTS FOR PERFORMING HAZARD ANALYSIS

1. Hazard Analysis Requirements.

a. Hazard Analyses (HA) are required for all operations involving handling and/or processing of energetic/hazardous materials.

b. Each Standing Operating Procedure (SOP) must be based upon, and supported by a HA. The HA will become a permanent part of the record copy SOP upon completion of staffing.

c. All new SOPs require a HA prior to development and staffing.

2. Hazard Identification and Control. The HA will identify each step of the operation in sequence and will establish compensating measures for reducing each hazard to an acceptable risk. Risk Assessment Codes (RAC) will be assigned per AR 385-10, tables 3-1, 3-2, and 3-3. RAC 1 and 2 designations are unacceptable from an operational standpoint and will be reduced to the maximum extent possible, preferably 4 or 5, prior to starting operations. RAC 3 is permitted but should be discussed with, and accepted by the commander. RAC 1 or 2 situations must be reduced to at least RAC 3 as a minimum through realistic process modification or controls, or else the task abandoned.

3. Hazard Analysis Process.

a. The organization that develops an SOP must first prepare a preliminary hazard analysis. A fairly complete list of areas to be considered may be found in MIL-STD-882B. The most common format for this analysis is the columnar approach. This format consists of several columns, describing the hazard, its cause, the resulting effects, the category of the hazard (RAC), a description of the measures taken to control the hazard, and a final RAC for the hazard as controlled.

b. A Hazard Analysis Working Group (HAWG) will be formed at each installation to support and manage the final HA development process. Membership of the HAWG will consist of Safety (Chairperson), SOP Developer, Ammo Surveillance, Environmental, and others deemed necessary to provide adequate technical support.

c. The preliminary HA will be submitted to the HAWG for review. The HAWG will perform an evaluation and determine adequacy and suitability of the contents and make necessary changes to constitute the final HA. Depending upon the operational risks involved, the HAWG may require additional analysis efforts (data searches, testing prototyping, etc.).

d. Based upon the complexity of the operation, additional hazard analysis techniques may also be deemed appropriate by the HAWG. They will be based upon the operating and support hazard analysis techniques given in

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MIL-STD-882B. The HAWG will assure that ancillary functions and conditions, i.e., equipment maintenance, environmental considerations, equipment failure modes, are considered prior to approval of the HA.

e. When the HAWG approves the HA, it may then be used for development of the SOP it supports.

f. The HA will be reviewed and updated, as necessary, prior to any changes to the SOP. The HA will also be reviewed in conjunction with any SOP review/recertification.